

Description of two new genera and three new species of Aphididae.

BY THEO. PERGANDE.

While examining a series of Aphids, received by the Bureau of Entomology of the U. S. Department of Agriculture, from Mr. S. I. Kuwana, of the Imperial Agricultural Experiment Station at Nishigahara, Tokio, Japan, I discovered among them a number of specimens of two highly interesting genera, one of which has been previously discovered on the Island of Java. These the writer takes the liberty of describing herewith.

NIPPONAPHIS n. gen.

This remarkable aphid, which is represented by a single species, resembles in venation and in the strongly annulated antennæ the genus *Schizoneura*, but differs from the latter in having antennæ which are only 5-jointed; the two basal joints short and subequal in length, the following three joints of almost equal diameter and strongly annulated; joint 3 is much the longest and longer than the remaining two combined.

Head, including the eyes, narrower than the thorax and broader than long, its frontal margin slightly convex. The two discal ocelli are placed in front of the eyes, and the third one at the middle of the anterior edge. Posterior tubercle of the eyes very small. Nectaries represented by pores only, and situated far back, apparently on the sixth abdominal segment. Tail short, broad, semicircular; last ventral segment notched at middle of posterior edge.

Third discoidal vein of the front wings with one fork.

Nipponaphis distychli n. sp.

The note sent by Mr. Kuwana is rather short and unsatisfactory; it reads as follow: "Head and eyes black. Prothorax dark purplish yellow. Dorsal aspect of meso-metathorax black. Abdomen dark purplish brown. Producing galls on the leaves of *Distyichium racemosum* at Nishigahara, October 23, 1905."

The antennæ of the migrants—the only form sent—reach about to the base of the abdomen. The two basal joints, as usual, shortest and subequal in length; the first joint cylindrical and originating on the under side of the head; joint 2 slightly the stoutest and broadly rounded at the apex; the remaining three joints cylindrical and of almost equal thickness; the third longest, longer than the remaining two combined, being divided by from 41 to 44 rather deep annulations; the fourth longer than the fifth, with from 20 to 24 annulations; while the fifth is divided by from 11 to 15 annulations, its terminal spur short, stout and truncate at the apex, where it bears three or four short bristles.

Thorax about as long as broad and slightly broader than the abdomen. Abdomen elongate-ovoid, tapering posteriorly and furnished on each side with four slightly projecting blackish stigmata in front of the nectar pores. Legs normal and provided with sparse short hairs.

Wings pale dusky, with slightly darker shading along the veins; the costal cell and the stigma still darker, costa, subcosta and the veins blackish. The first two discoidal veins arise quite near each other and are rather far apart at the hind margin of the wing; the fork of the third discoidal is unusually long and narrow, while at least two-thirds of the stem of this vein is obliterated; in rare cases the fork is extremely short, while occasionally the third vein is simple as in *Pemphigus*. The stigma is long and lanceolate, with the stigmal vein arising about the middle, its basal half gently curved, the rest almost straight and terminating in front of the apex of the wing. The two discoidal veins of the hind wings are at least three times as far distant at the base as those of the front wings. The surface of all of the wings is rather densely scaly. Length of body about 2 mm.; expanse of wings about 7 mm.

TRICHOSIPHUM n. gen.

This is another abnormal genus and undoubtedly nearly related to the genus *Greenidea*, which was properly established by Schouteden for *Siphonophora artocarp*i Westw. Both of these genera agree in the very hairy nectaries, a character not observed in any of the other known genera. The principal differences between the two, in respect to the nectaries, are as follows: In *Greenidea* the nectaries of the migrant and of the apterous female, pupa, etc., are rather long, slender, almost entirely cylindrical, or slightly narrower at both ends and relatively of about the same length; whereas in the new genus the nectaries of the migrant are extremely long and cylindrical, while those of the apterous females are short, very stout and very distinctly fusiform. This diversity in the size and shape of these organs in the different forms justifies my opinion that

this constitutes a genus distinct from *Greenidea*, although closely related to it.

The characters of this new genus are: Antennæ of migrant as long or longer than the body, composed as usual of six joints, all of which, excepting the two basal, are furnished with long and bristle-like hairs, the third being longest. Front of head broad and quite straight; posterior tubercle of eyes bearing three ocelli. Abdomen sparsely hairy. Tail short and broadly triangular. Nectaries very long, almost as long as the whole body, cylindrical, straight, curving outwards towards the apex and profusely covered with long, bristle-like hairs. Venation similar to that of *Aphis*.

In the apterous female, the whole body, including the antennæ, nectaries and legs, is covered with stout hairs or bristles; head, etc., as in the migrant. Nectaries short, or about one-fourth of the length of the body, stout and distinctly fusiform; curved outwards.

Only two species exhibiting these characters are thus far known to me. The first of these represented by migrants, pupæ, apterous females and larvæ, was discovered by Dr. L. Zehnter, January 10, 1902, at Salatiga, Java, on *Anona muricata*. Following is its description:

Trichosiphum anonæ n. sp.

The material representing this species was, as usual, preserved in alcohol, and for this reason the original coloration has vanished. It appears, however, to have been yellowish green in the migrants, with the exception of the greater part of the abdomen above, which appears to have been brown.

Migrant.—Antennæ 6 jointed; the two basal joints, as usual, shortest and subequal in length, the first joint stoutest; joint 3 longest, longer than the spur of the sixth joint and but slightly shorter than the fourth and fifth combined, both of the latter subequal in length; all of these joints are furnished with rather long and stiff hairs; there are also from four to six small, transversely oval sensoria near the base of joint 3. The antennæ are slender and about as long as the whole insect.

Front of head quite straight, slightly indented about the middle, and furnished with about six long and slender hairs, while similar hairs are scattered over the upper surface of the head.

Head broader than long, and, with the eyes included, broader than the

prothorax. Eyes large, their posterior tubercle highly developed, each bearing three ocelli. The two ocelli on top of the head are placed close to the anterior edge of the eyes, while the anterior one is situated on the under side of the head.

Rostrum long, reaching to the abdomen. Prothorax broader than long and slightly broadest posteriorly, provided with a few lateral hairs on each side.

Abdomen about one-half the length of the body, its lateral edges quite straight, and broadest near the region of the nectaries, the terminal end broadly triangular, provided with sparse and fine hairs, which are still more numerous along the sides and on the last segment.

Tail short and broadly arcuate, bearing a small triangular projection at the middle of the external margin, its two sides being quite sharply serrate; each side bearing apparently four bristles, with a few smaller ones on its surface. The last segment is broadly semi-circular, and bears along its edge quite a number of still longer and stouter curved bristles.

Nectaries very long, almost as long as the whole insect, cylindrical, straight and slightly curved outwards toward the apex, and covered profusely with long and fine divaricating hairs or bristles.

Legs rather long and slender, provided on femora and tibiae with stiff hairs. Front wings much longer than the entire body, the venation resembling more or less that of *Aphis* and *Callipterus*. The first two discoidals are distant at base and about seven times as widely separated at the apex; the first vein is almost straight, whereas the terminal one-third of the second vein is much curved toward the base of the wing; the third discoidal with its two forks resembles somewhat that of *Callipterus*; the basal half or less of this vein, or the stem of it, is obliterated; the stigma is long, narrow, parallel; stigmal vein gently curved and terminating at the apex of the wing. The hind wings are much shorter and much narrower than the front wings and have the usual oblique veins, which are quite straight, far apart at base, and more than twice as far apart at apex.

The pupæ have the body and legs much more hairy; the hairs of these parts are longer and stouter than in the migrant, while those of the tail and end of the body are shorter and finer. The upper side of the abdomen is marked with numerous pale brown spots of varying size, followed by a brown band, the latter divided at the middle, and itself followed by a very large spot between and touching the nectaries. In other respects, the pupæ resemble the migrant, excepting that the nectaries are not quite one-half the length of the body, and are also comparatively stouter and slightly tapering toward both ends. The triangular point of the tail is also somewhat longer.

Apterous Female.—Body pyriform, the head, pro- and mesothorax being narrowest, the rest of the body broadly oval. Front of head straight, or almost so, and destitute of frontal tubercles. Eyes of the usual size, their posterior tubercle prominent and furnished with three large and rather globular ocelli. Antennæ about two-thirds the length

of the insect; joints 3 and 6, including the spur, longest and subequal in length, each of them about as long as joints 4 and 5 combined; the fifth slightly longer than the fourth; all except the spur are provided with a few long stiff hairs or bristles. Tail and end of body as in the migrant; nectaries much shorter than in either the migrant or pupa, or only about one-fourth the length of the body, rather stout near the middle, tapering toward each end and curved outwards. Abdomen without spots, the whole body, including the nectaries and legs, profusely provided with stiff hairs or bristles, similar to those of *Chaetophorus*. Length about 1.4 mm.; diameter across the abdomen about 0.8 mm.

Trichosiphum kuwanæ n. sp.

Among the material of aphids sent by Mr. S. I. Kuwana, of the Imperial Agricultural Experiment Station, Nishigahara, Tokio, Japan, were found three parcels of alcoholic specimens of apterous females, larvæ and a few pupæ of this species, though none of the migrants. All were found living upon *Quercus serrata* on the 27th and 29th of June, and on the 2nd of August, 1905. Those taken in June are stated to be of a deep black color, whereas those obtained in August are said to be reddish brown. An examination of the entire material convinces the writer that all of them belong to the same species, which he herewith takes pleasure in dedicating to Mr. Kuwana.

This is, therefore, the second female, in which the nectaries of the apterous females are short, stout and fusiform.

Apterous Female.—Antennæ about one-half the length of the body; joints 3-6, including the spur, varying more or less in length in different specimens and frequently in the same individual; the third joint as usual is longer than the two following joints combined, the latter subequal in length. All of the joints, excepting the spur, are provided with long, stiff bristles. Front of head broad and quite straight. Eyes large, their posterior tubercle much elongated and bearing three large ocelli at the end; sides of the thorax quite straight, broadening more or less distinctly posteriorly, while the abdomen is almost circular in outline. The legs are rather long and stout, and like the rest of the insect, profusely covered with stout stiff bristles. Nectaries usually somewhat longer than the third antennal joint, or about one-half as long as the abdomen, stout, tapering toward each end and curved outwardly, covered with numerous long bristles and minute spines.

Tail short, broadly triangular, bearing a short triangular point at the centre of the posterior edge, densely covered with minute sharp points and furnished on each side with three or more long stout bristles. Last

ventral segment broadly emarginate. In the older specimens the coloration appears to be quite uniform, whereas in younger females, there are six irregular rows of large, oval or roundish dusky or brownish spots on the abdomen, interspersed with numerous smaller spots of two sizes, each of the latter bearing a slender black hair; there are also four large lateral spots in front of the nectaries, while the head and thorax are entirely of a dark color; there are also two pairs of dark spots on the meso- and meta-thorax, the anterior pair on each of these segments being much the smaller and transversely linear.

The larvæ are very much elongated, their lateral margins quite parallel; the body is also more or less distinctly spotted, and the hairs of the abdomen are rather long and slender. Nectaries short, about the length of the posterior tarsi, stout at base, elongate-conical, not reaching to the end of the abdomen; just behind each of them is a stout and conical, lateral tubercle, about one-half the length of the nectaries, bearing at the apex a long, slender, backwardly directed bristle, while a similar though smaller pair of tubercles is situated at the posterior margin of the following segment. The last dorsal segment is broadly triangular.

The pupæ are spotted similarly to the younger apterous females, and are also very hairy, though the nectaries are longer, quite slender, though still somewhat fusiform.

Texas Notes—I.

By E. DWIGHT SANDERSON.

1. *Omileus epicaroides* Lec.—A snout weevil injurious to peach foliage. Injury by this species to peach foliage was first called to our attention by two correspondents in East Texas early in March, 1904. The beetles were reported as seriously injuring the foliage of young peach trees. The same insect had done similar injury the year previous. Examination showed them to be wingless, and their control therefore appeared simple. The insects seemed most numerous during the first ten days of April. Visiting Dialville, in the heart of the peach belt, on April 29th, we found them still abundant. The foliage had been eaten much as by *Lachnosterna*. The sexes had been mating for some time. The beetles were shaken from the trees with great difficulty so that jarring was not feasible. They were noticed most commonly on tender sprouts from oak stumps. It developed that they were injurious almost entirely on or adjoining newly planted orchards on land just cleared off and surrounded by oak. It seems to us